GEOTRACES Arctic Cruise Planning Meeting
8 to 10 June 2009
HWK, Delmenhorst, Germany

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ATOS: Atmospheric inputs of organic carbon and pollutants to the polar ocean: rates, significance and outlook.

PI: Carlos M. Duarte

Objetives:The ATOS project aims at resolving the increasing role of air-sea exchanges of materials in the polar sea by:

1. Quantifying the atmospheric inputs of organic carbon and key organic pollutants both in aerosol and gaseous phases.

2. Elucidating the role of sea ice cover in controlling these rates and the inputs associated to sea ice melting.

3. Evaluating the fate of the materials, by assessing their use by biota and transference up the food webs.

4. Evaluating the effects on microplankton as the entry points of the materials in the food web.

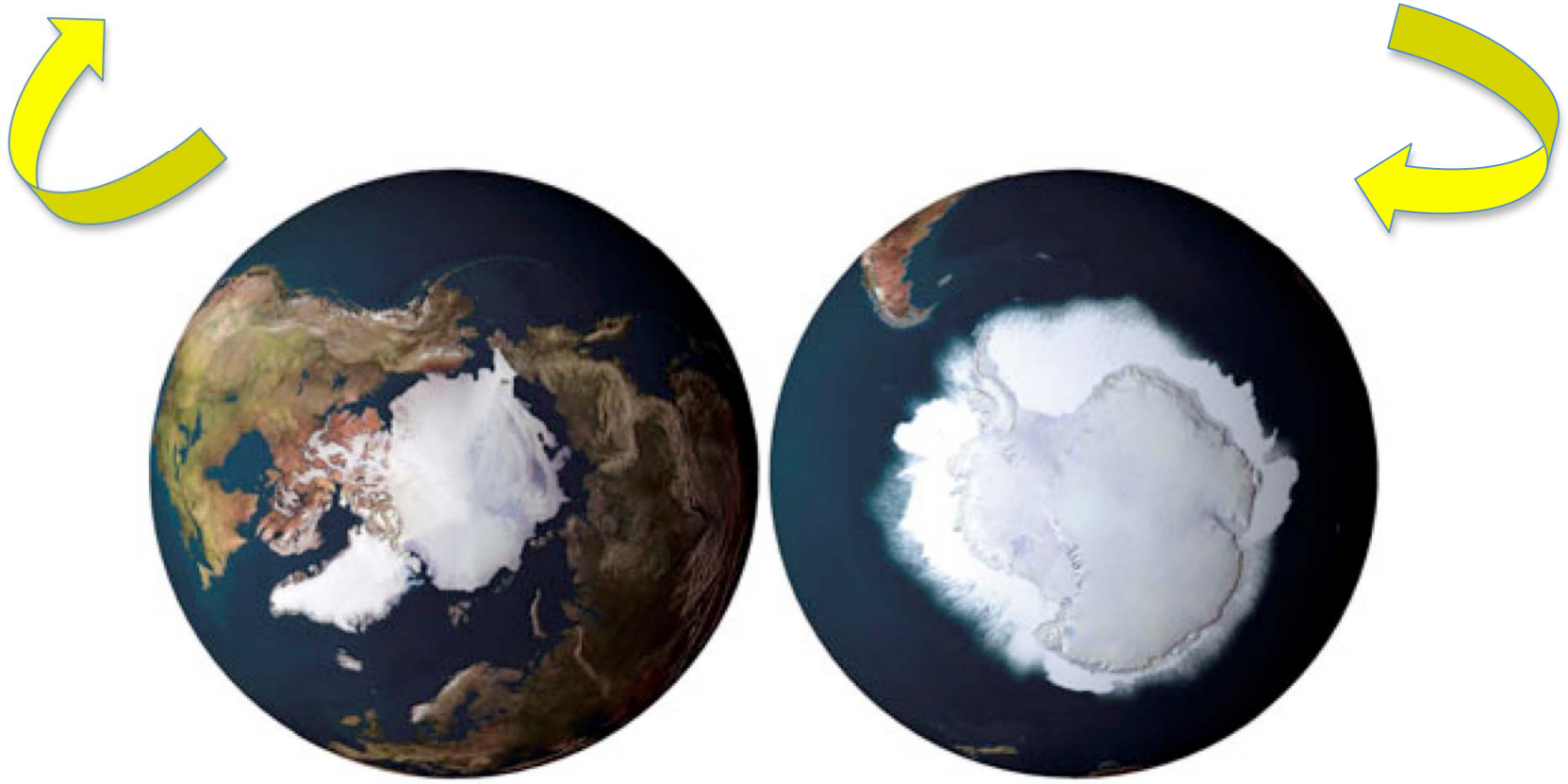
GOBIERNO DE ESPAÑA
MINISTERIO DE CIENCIA E INNOVACIÓN
CSIC

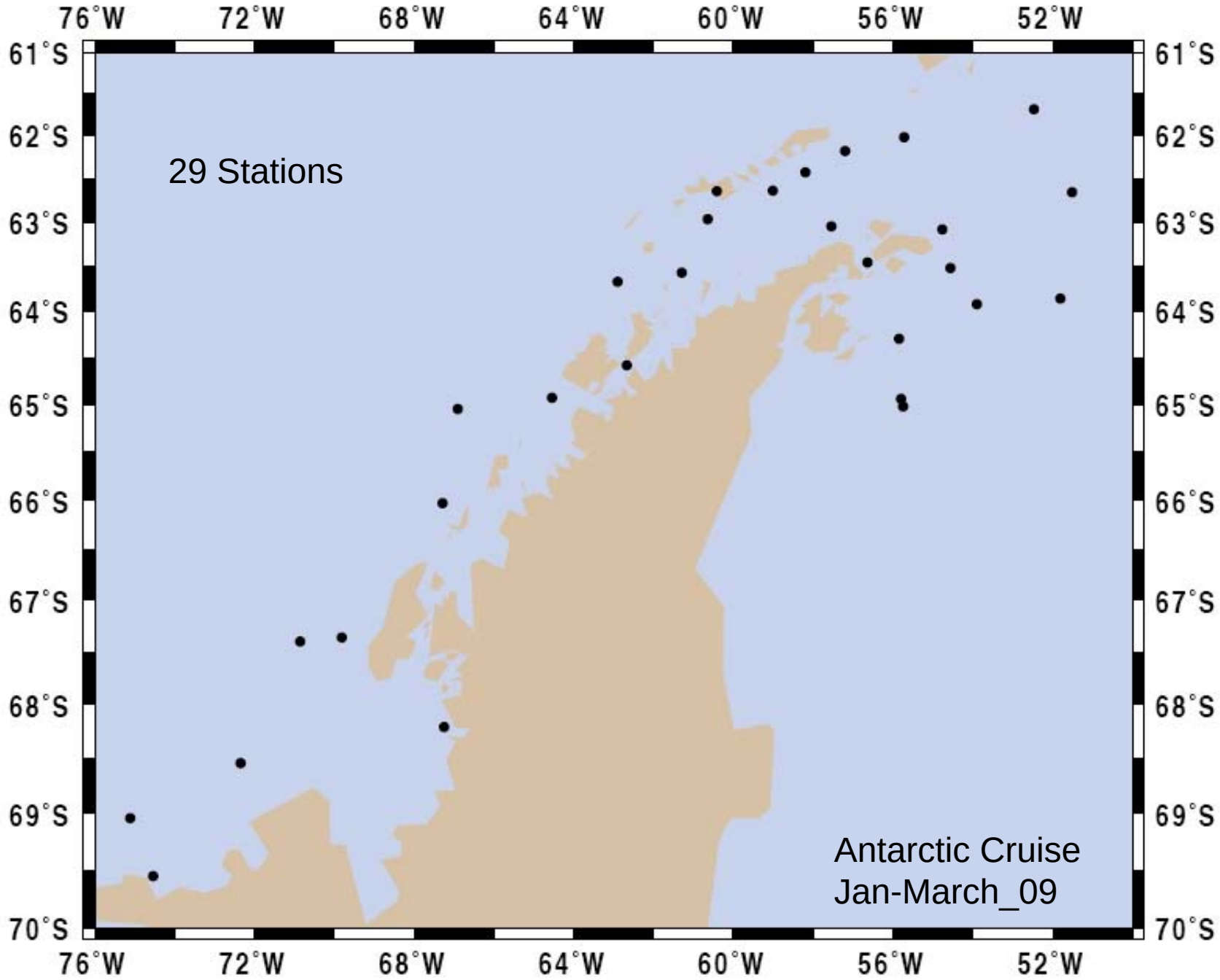
Hespérides : 1990
Length 82.5 m
Crew (58) and Scientists (29)

ATOS Campaigns

Arctic
Ship: BIO Hespérides
Reykjavik, Iceland, June 29, 2007
Svalbard Islands, Norway, July 27, 2007

Antarctic
Ship: BIO Hespérides
Punta Arenas, Chile, January 23, 2009
Ushuaia, Argentina, March 2, 2009



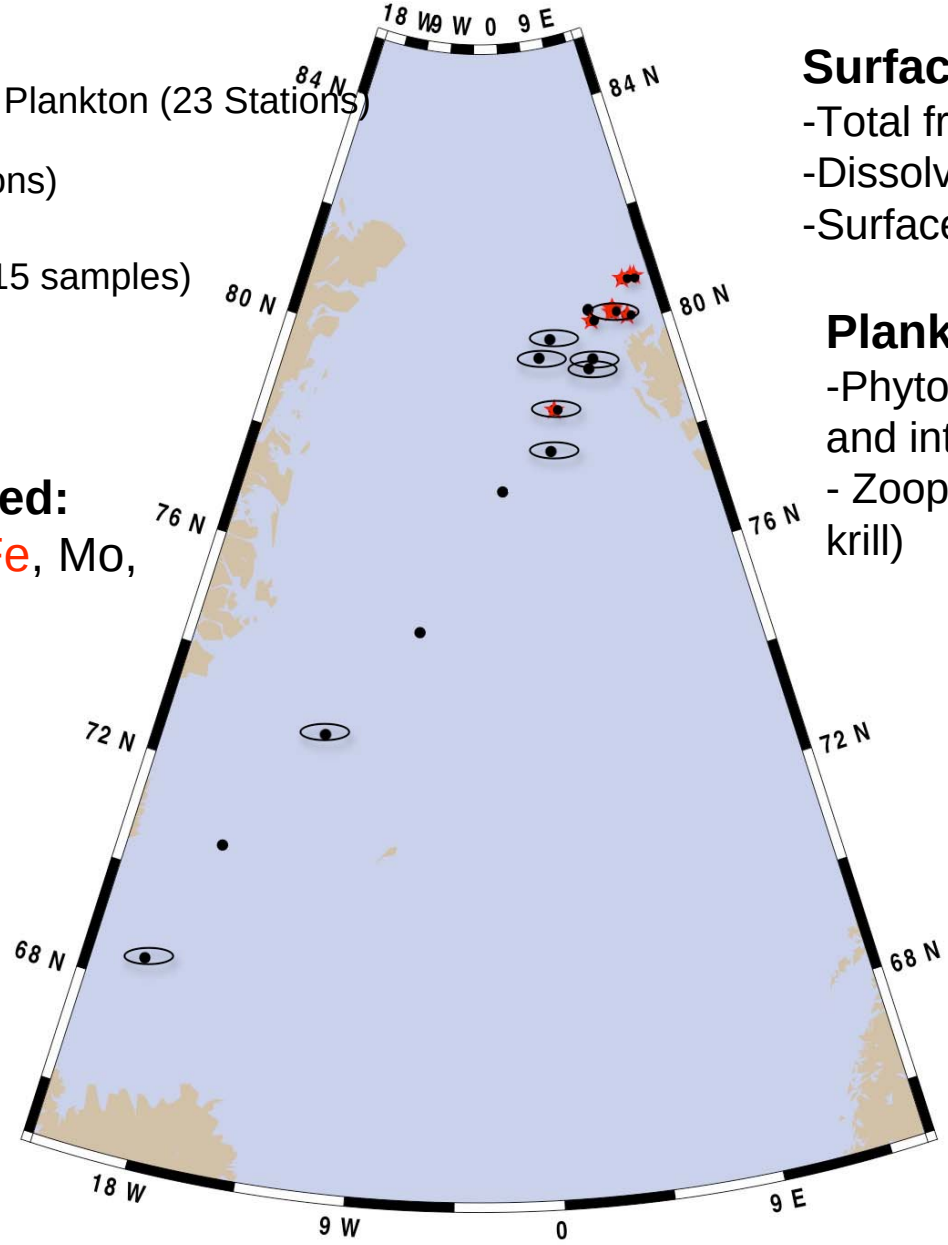

76°W
72°W
68°W
64°W
60°W
56°W
52°W
61°S
62°S
63°S
64°S
65°S
66°S
67°S
68°S
69°S
70°S
29 Stations
Antarctic Cruise
Jan-March_09

ARCTIC CAMPAIGN (June-July, 2007)

Surface Water and Plankton (23 Stations)

Ice Cores (10 stations)

Aerosols Deposition (15 samples)



Surface water includes:
-Total fraction (unfiltered)
-Dissolved fraction (<0.22 µm)
-Surface microlayer

Plankton includes:
-Phytoplankton (Extracellular and intracellular fraction)
- Zooplankton (copepods and krill)

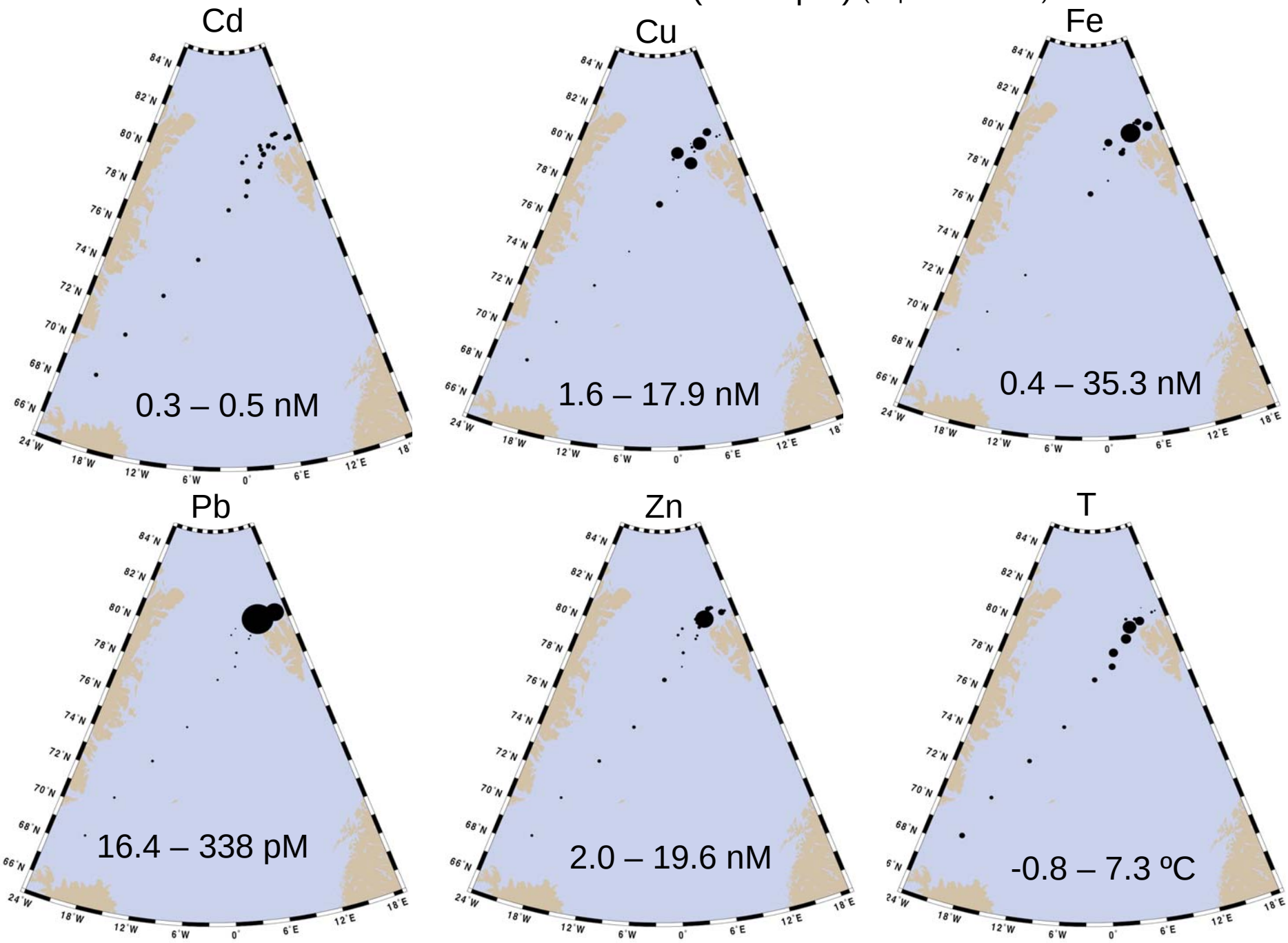
Elements analyzed:
Ag, Cd, Co, Cu, Fe, Mo, Ni, Pb, V and Zn

Water Sampling

In situ pumping from a zodiac or Tow fish

Surface Microlayer

Dissolved fraction (<0.22 µm) (Unpublished data)



Thank You